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Docket 81017PCW  
Customer No. 01333

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of

Joseph R. Summa

**OPTIMIZATION OF CCD  
MICROLENS SIZE FOR COLOR  
BALANCING**

Serial No. 09/821,151

Filed March 29, 2001

Group Art Unit: 2622

Examiner: Nguyen, Luong Trung

I hereby certify that this correspondence is being deposited today with the United States Postal Service as first class mail in an envelope addressed to Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*Lois A. Massar*  
Lois A. Massar

*Jan. 11, 2007*  
Date

Mail Stop APPEAL BRIEF-PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA. 22313-1450

Sir:

**APPEAL BRIEF TRANSMITTAL**

Enclosed herewith is Appellants' Appeal Brief for the above-identified application.

The Commissioner is hereby authorized to charge the Appeal Brief filing fee to Eastman Kodak Company Deposit Account 05-0225. **A duplicate copy of this letter is enclosed.**

Respectfully submitted,

*Peyton C. Watkins*  
\_\_\_\_\_  
Attorney for Appellants  
Registration No. 36,390

Peyton C. Watkins/lam  
Telephone: 585-477-8282  
Facsimile: 585-477-4646  
Enclosures

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.



Docket 86533PCW  
Customer No. 01333

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of

Joseph R. Summa

**OPTIMAZATION OF CCD  
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Date

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA. 22313-1450

Sir:

**APPEAL BRIEF PURSUANT TO 37 C.F.R. 41.37 and 35 U.S.C. 134**

01/17/2007 HVUONG1 00000004 050225 09821151

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## **APPELLANT'S BRIEF ON APPEAL**

Appellants hereby appeal to the Board of Patent Appeals and Interferences from the Examiner's Final Rejection of claims which was contained in the Office Action mailed November 9, 2006.

A timely Notice of Appeal was filed November 22, 2006.

### **Real Party In Interest**

As indicated above in the caption of the Brief, the Eastman Kodak Company is the real party in interest.

### **Related Appeals And Interferences**

No appeals or interferences are known which will directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

### **Status Of The Claims**

In the application, claims 1-5 remain pending and are the subject of this appeal.

Appendix I provides a clean, double-spaced copy of the claims on appeal.

### **Status Of Amendments**

The last amendment filed prior to this appeal, mailed October 19, 2006, has been entered into the record of the subject patent application.

### **Summary of Claimed Subject Matter**

Referring to Figs. 1 and 2 (see page 2, line 19 - 20), an image sensor 10 comprising (see page 2, lines 21 - 23) an array of pixels for collecting incident light and converting the light into an electrical charge; ( see page 2, lines 28 - page 3, line 2) a color filter array 20 having a plurality of colored filters 20a and 20c positioned adjacent to the pixels for selectively transmitting specific spectral bands of light to the pixels; and (see page 3, lines 3 - 18) a plurality of lenses 30 positioned adjacent to individual pixels wherein the lenses 30a positioned adjacent a first color of the colored filters 20a are substantially larger in size than lenses

(either 30b or 30c) adjacent a second color (either 20a or 20c), such that a greater proportion of the incident light is focused onto the pixel adjacent the first color of the colored filter 20a, and (see Fig. 1) wherein a center (indicated by the dots) of each lens 30 is at a uniform spacing.

### **Grounds of Rejection to be Reviewed on Appeal**

The following issues are presented for review by the Board of Patent Appeals and Interferences:

1. Whether the affidavit provides sufficient due diligence for the “critical time period” to overcome or “swear behind” the Foster reference (US Patent 6,643,386).
2. If Foster is eliminated as a reference, whether the rejection under 103 is proper (which requires the combination of two or more references) since the teachings of Foster are moot and no prior art has been cited to supply the teachings of Foster to combine with Okazaki, which is the basis of the rejection.
3. If Foster is not eliminated as a reference, whether the rejection must state what particular time period within the “critical time period” is deemed insufficient so that Applicant can address the purported time period deficiency so Applicant can be more responsive.

### **Arguments**

#### **Sufficiency of the Affidavit**

Applicants submitted several affidavits to overcome the Foster reference. The majority of the time was due to preparation of the patent application by the attorneys. Applicants will discuss the relevant case law on preparing the patent application and its relevance to the subject application below. For clarity, it is noted that the affidavit of October 19, 2006 contains a typographical error. Paragraph 2 should state from “3/17 to 4/25.” This time period is due to requiring business unit authorization to file the patent application.

### Business Unit time

It is noted that approximately a month lapsed between the signing of the invention disclosure and receipt by the Patent Staff. Reasonable processing time (on a daily basis) in having it approved for patent filing by R&D Management accounts for this time. There was also a backlog of Invention disclosure. Approximately 1,141 patent applications were filed by the Eastman Kodak Company in 2001 and each **needed** approval by an authorizing manager. This clearly is a backlog that should be judged just as attorney time is judged, **reasonable diligence**. It is respectfully submitted that this clearly demonstrates that the invention was not “abandoned” or the like.

### Attorney Time

The application was assigned to three different attorneys due to resignations and the like. Each of the time periods due to each attorney is described in the affidavit. Applicant submits that reasonable diligence was established in preparing and filing the patent application. The relevant section of the MPEP is 2138.05 subheading “Diligence Required In Preparing and Filing Patent Application.” This section explains that a reasonable backlog taken up by the attorney in chronological order and carried out expeditiously is sufficient. The affidavit clearly discloses the diligence of each attorney and their backlog and their production during the critical time period.

The case of *Bey v. Kollonitsch* 231 USPQ 192 (1982) is clearly on point in this regard. It states as follows:

Of course, it may not be possible for a patent attorney to begin working on application at the moment the inventor makes the disclosure, because the attorney may already have a backlog of cases depending his attention. Thus, the courts have recognized that **reasonable** diligence is all that is required of the attorney. (Emphasis in original)

It is not necessary that inventor or his attorney should drop all other work and concentrate on the particular invention; and if the attorney has a reasonable backlog

which he takes up in chronological order and carries out expeditiously, that is sufficient.

Generally, the patent attorney must show that unrelated cases are taken up in chronological order, thus, the attorney has the burden of keeping good records of the dates when cases are docketed as well as dates when specific work is done on the applications.

In summary, it is submitted that reasonable diligence in the affidavit has been established in preparing the patent application.

103

If the affidavit is deemed sufficient, the teachings of Foster are moot, and the rejection does not state where any other prior art teaches the same teachings as Foster. Therefore, claim 1 and all its dependent claims are not taught or suggested because, on page 3 of the final rejection dated 8/25/2006, the rejection relies on Foster to teach an array of microlenses in which there is first sized microlens adjacent a first color and a second sized microlens adjacent a second color and the first sized microlens is substantially larger than the second sized microlens.

For convenience of reading, the rejection states on page 3:

***Okazaki et al. fails to specifically disclose wherein the lenses positioned adjacent a second color of the colored filters are substantially larger in size than lenses adjacent a second color, such that a greater portion of the incident light is focused on to the pixel adjacent the first color of the colored filter.*** However, Foster teaches an image sensor which comprises a plurality of micro lenses positioned adjacent to individual pixels wherein the micro lenses positioned adjacent a first color of the colored filters are substantially larger in size than lenses adjacent the second color. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify device Okazaki et al. by the teaching of Foster in order to reduce noise in the low sensitivity comes. (Emphasis added)

In summary, if the affidavit is sufficient, the emphasized teachings would be devoid in the prior art and the claimed invention (claims 1 - 5) would not be obvious since its teachings and purported motivation are missing.

#### General

If the affidavit is not sufficient, it is requested that the rejection state which particular time period within the critical time period is insufficient and why. The rejection merely states the definition of the critical time period, which is acknowledged by Applicant. However, any response by Applicant would be somewhat non-responsive if it is not possible to know precisely what content and specific time period within the critical time period is deemed insufficient.


#### Summary

It is respectfully submitted that the Affidavit is sufficient to establish diligence and the claimed invention (claims 1 -5) is not obvious if the Affidavit is sufficient. If the Affidavit is insufficient, it is respectfully submitted that the rejection note what specific content and time period within the critical time period is deemed insufficient.

#### Conclusion

For the above reasons, Appellants respectfully request that the Board of Patent Appeals and Interferences reverse the rejection by the Examiner and mandate the allowance of Claims.

Respectfully submitted,

  
\_\_\_\_\_  
Attorney for Appellants  
Registration No. 36,390

Peyton C. Watkins/lam  
Telephone: 585-477-8282  
Facsimile: 585-477-4646  
Enclosures

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.





## **Appendix I - Claims on Appeal**

1. An image sensor comprising:
  - (a) an array of pixels for collecting incident light and converting the light into an electrical charge;
  - (b) a color filter array having a plurality of colored filters positioned adjacent to the pixels for selectively transmitting specific spectral bands of light to the pixels; and
  - (c) a plurality of lenses positioned adjacent to individual pixels wherein the lenses positioned adjacent a first color of the colored filters are substantially larger in size than lenses adjacent a second color, such that a greater proportion of the incident light is focused onto the pixel adjacent the first color of the colored filter, and wherein a center of each lens is at a uniform spacing.
2. The image sensor as in claim 1, wherein the color filters include a blue colored filter which is the first color in the color filter array.
3. The image sensor as in claim 2, wherein the colored filters include red and green colored filters either of which is the second color.
4. The image sensor as in claim 1, wherein the colored filters include a red colored filter which is the second color.

5. The image sensor as in claim 4, wherein the colored filters include a green colored filter which is a third color and which lens adjacent the green colored filter is substantially smaller in size than the red colored filter.

## **Appendix II - Evidence**

The Declarations under 37 CFR 1.132 submitted by Peyton C. Watkins (the affidavit referenced in this Appeal Brief). Pages 2 and 3 of the Advisory Action further disclose the explanation the Examiner provided in discussing the Examiner's reasoning for stating the Declarations were insufficient. A copy of the Declarations is attached hereto.

### **Appendix III – Related Proceedings**

There are *no* appeals or interferences which are known that will directly affect or be affected by or have any bearing on the Board's decision in the pending appeal.

**Response under 37 C.F.R. 1.116  
- Expedited Examining Procedure -  
Examining Group 2622**

**MAIL STOP AF  
81017PCW**

**Customer No. 01333**



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Joseph R. Summa

**OPTIMIZATION OF CCD  
MICROLENS SIZE FOR COLOR  
BALANCING**

Serial No. 09/821,151

Filed 29 March 2001

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA. 22313-1450

Group Art Unit: 2622

Examiner: Nguyen, Luong Trung

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deposited today with the United States Postal  
Service as first class mail in an envelope addressed  
to Commissioner For Patents, P.O. Box 1450,  
Alexandria, VA 22313-1450.

*Lois A. Massar*  
Lois A. Massar

*Oct. 19, 2006*  
Date

Sir:

**DECLARATION UNDER 37 CFR 1.132**

Peyton C. Watkins declares that:

1. an invention summary was prepared by Joseph R. Summa on March 17, 2000 (see attached Appendix A);
2. from 3/27 - 4/25, the invention summary was reviewed by the Intellectual Property Coordinator for giving business unit authorization (see third paragraph of Remarks section in previous response for comments);
3. that the invention summary was sent to the Patent Legal Staff and that Joseph R. Summa was notified on April 25, 2000 by the Patent Legal Staff that a Kodak docket number had been assigned and that the responsible attorney would be James D. Leimbach (see attached Appendix B);
4. from 4/25 - 6/16, the invention summary was taken up by Attorney James D. Leimbach and was in backlog of patent applications for the purpose of eventually writing the patent application; James D. Leimbach filed 6 patent



application from 1/1 - 6/16 and answered 10 clearance requests (see Appendix C) along with his other duties such as writing amendments;

5. that James D. Leimbach left the Eastman Kodak Company on June 16, 2000;

6. on or about 6/16, the docket for the invention summary submitted by Joseph Summa was transferred to Tom Close along with all the other dockets for which James D. Leimbach was responsible; that the "on or about 6/16" in this paragraph represents the fact that a legal assistant had to physically enter the docket entry into a database for transfer to another attorney along with doing this for all other dockets being transferred; therefore, the precise date can't be ascertained from internal records;

7. from 6/16 - 10/1, the invention summary of the present invention was in a backlog for the purpose of eventually writing a patent application by Tom Close; that Tom Close already had a docket previous to this time period that he maintained during this time period;

8. that Tom Close filed 59 US Patent applications in 2000 in processing the cases for which he was responsible (see attached Appendix C);

9. I came back to the Patent Legal Staff, after an assignment, in October 2000 and that the docket for the invention summary prepared by Joseph R. Summa was assigned to me in addition to all other dockets for which original responsibility was James D. Leimbach and which were not completed by Tom Close;

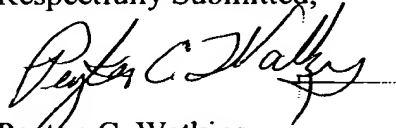
10. from 10/1/2000 - 3/29/2001, that I personally met with Joseph R. Summa in preparing the patent application for the subject invention and wrote the application; that my normal course of business is to meet at least twice and that, to the best of my knowledge, I met at least twice with Joseph R. Summa; that during this time, I also had a backlog of applications and prepared the application in the normal course of business;

11. that the actual dates on which the meetings occurred have been deleted from my calendar due to Eastman Kodak Company's policy of automatically deleting electronic calendar entries after 45 days;

12. that I filed 33 US Patent applications in 2001 including the subject invention and that I had one US Patent application prepared by outside counsel in 2001 in order to process the backlog of cases for which I was responsible (see attached Appendix D).

I further declare that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Peyton C. Watkins", written over a horizontal line.

Peyton C. Watkins

# Optimization of CCD Microlens Size for Color Balancing

Joseph R. Summa

## Field of Invention

This invention relates to electronic imaging, and in particular the color sensitivity of individual pixels in a CCD.

## Background of Invention

The responsivity of a CCD typically varies with the wavelength of the incident light. This variation is caused by a variety of factors including the gate electrode and dielectric stack, color filter non-idealities, and the sensitivity of the silicon itself. Typically, the spectral response of a CCD peaks in the green and is lowest in the blue. There is also much less blue light available in typical scenes making larger sensitivity to blue light desirable. This invention preferentially directs portion of the light that would otherwise be captured by pixel with high responsivity onto a pixel with lower response and thus permit optimization of the total spectral sensitivity of the device.

## Summary of the Invention

Microlens arrays deployed on CCDs are typically sized identically for each color and match the dimension (less the gap between lenses) of the underlying pixel. By uniquely sizing the microlenses over each color, (and expanding outside the bounds of the underlying pixel if necessary), the spectral response of the device can be customized.

## Advantages over Prior Art

- \* Improved color balance without significant loss of light
- \* Improved blue response
- \* Less sensitivity to lens inefficiencies when applied to a full frame CCD

## Detailed Description of the Invention

A typical lens array is shown in figure 1. An example of a resized lens array is shown in figure 2. In the (somewhat exaggerated) case shown, an oversized blue lens focuses a percentage of the light that would have been collected in the green pixel using the standard design in figure 1. This additional light can be used to compensate for spectral sensitivity differences. Due to changes in the curvature of the lens as function of lens size, not all lenses will focus light on the substrate with equal efficiency. When applied to an interline CCD with a narrow photodiode, this will reduce the quantum efficiency of these pixels, but still improve color balancing. In the case of full frame image sensors (where the entire pixel is photosensitive), these losses (if any) will be much less severe since the diameter of the focus spot of the lens is less critical.

## Examples of Prior Art:

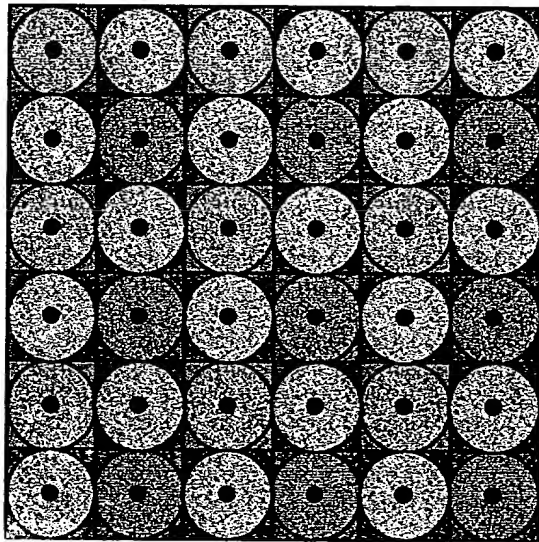
US PAT. 4,667,092 ← USE OF LENSLETS

US PAT. 6,001,668 ← FULL FRAME ITO<sup>+</sup> SENSOR w/ MENTION OF LENSLET TO FOCUS LIGHT INTO ITO PHASE  
(KODAK)

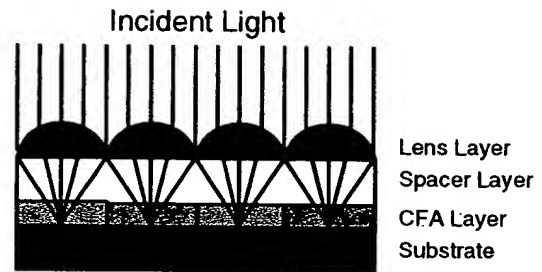
3/17/2000  
3/17/2000 Joseph R. Summa



## Attachments

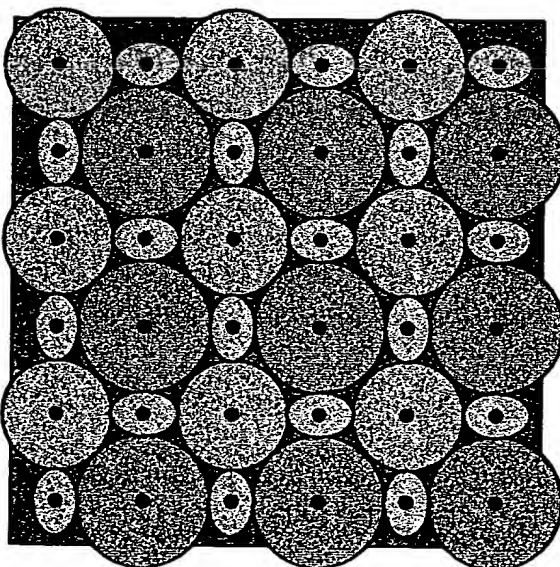


Top View

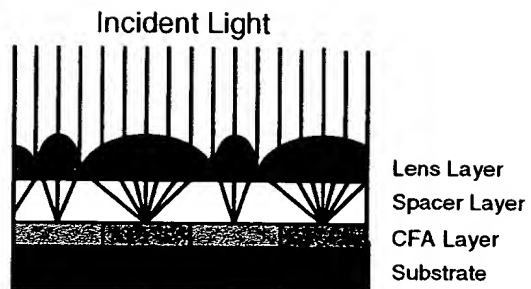


Cross Sectional View

Figure 1



Top View



Cross Sectional View

Figure 2

3/17/2000 *[Signature]*

Appendix B

Lois A. Massar  
04/25/2000 01:56 PM

To: Joseph R Summa/470596/EKC@Kodak  
cc: David N. Nichols/121334/EKC@Kodak, James D. Leimbach/484573/EKC@Kodak (bcc: Lois A. Massar/315487/EKC)  
Subject: Docket Assignment - Docket No. 81017/JDL

From: Lois A. Massar

**SUBJECT: Newly Received "KODAK Invention Disclosure"**  
Titled: "Optimization of CCD Microlens Size For Color Balancing"  
Inventor(s): Joseph R. Summa  
Docket No.: 81017/JDL

The above-identified "KODAK Invention Disclosure" has been assigned to James D. Leimbach for handling.

The Patent Department Docket No. indicated above should always be used when corresponding to us regarding this invention disclosure.

When you are ready to discuss the patentability of this invention, please contact me and I will schedule a meeting between you and Mr. Leimbach. If you have any questions or concerns, please contact either Mr. Leimbach (x-29021) or myself (x-29711). Also, please keep us informed of any significant changes in the invention or plans to use the invention.

Thank you.

*Lois A. Massar*

Patent Legal Staff, 14/83/RL, MC-02201, x-29711  
Patent Legal Assistant to James D. Leimbach

Appendix C

## IMAGING ELECTRONICS

Final

December 2000

																10
Work Load	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	JDL	Total	Av.
Domestic PE Pending	10	12	17	6	7	14	1	18	14	17					116	12
PE Over 6 Months	0	1	0	0	0	0	0	2	2	0					5	1
Attorney Ready PE	0	1	0	0	1	0	0	5	3	0					10	1
Foreign PE Pending	0	0	0	1	0	0	0	0	0	0					1	0
CL Pending	11	0	13	19	13	0	7	17	0	19					99	10
Originating Country Appln Pending	123	93	48	66	109	221	27	118	44	79					928	93
EP Appln Pending	33	60	79	27	139	166	37	70	15	58					684	68
JP Appln Pending	52	82	142	66	239	204	55	92	17	67					1016	102
Other Foreign Appln	7	7	14	6	44	69	24	12	7	42					232	23
Input	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	JDL	Total	
Domestic PE Received	1	0	0	0	2	1	0	0	0	1					5	1
Foreign PE Received	0	0	0	0	0	0	0	0	0	0					0	0
CL Received	0	0	0	0	5	0	0	0	0	0					5	1
Output	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	JDL	Total	
Disposed by Filing	4	6	3	0	10	3	0	8	2	4					40	4
Other Disposals	0	0	0	0	0	0	0	0	0	0					0	0
Priority Appln Filed	4	6	4	0	9	3	0	8	2	4					40	4
US Original Appln Filed	4	6	3	0	10	3	0	7	2	5					40	4
Prepared Outside	0	0	0	0	0	0	0	7	0	0					7	1
US Other Appln	1	0	0	2	2	2	0	0	1	1					9	1
CL Answer	0	0	0	0	0	0	0	1	0	0					1	0
US Patents Issued	2	1	2	0	2	4	1	3	1	1					17	2
Year to Date																
Input YTD	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	JDL	Total	Av.
Domestic PE Received	43	14	25	14	16	40	0	68	6	2				7	228	23
Foreign PE Received	0	1	0	4	12	1	0	0	0	0				0	18	2
CL Received	9	0	4	0	26	0	0	36	0	2				1	77	8
Output YTD	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	JDL	Total	Av.
Disposed by Filing	56	36	22	12	37	83	0	56	12	9				7	323	32
Other Disposals	9	13	1	16	5	2	0	23	0	1				4	70	7
Priority Appln Filed	59	36	22	8	37	85	0	56	9	9				6	321	32
US Original Appln Filed	63	36	21	13	38	84	2	55	11	10				6	333	33
Prepared Outside	0	1	0	0	0	1	0	10	0	1				0	13	1
US Other Appln	7	11	9	15	12	8	11	2	1	2				17	78	8
CL Answer	8	7	7	4	2	0	0	20	0	2				10	50	5
US Patents Issued	19	26	27	20	43	82	16	26	8	8				13	275	28
Input-Output	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	JDL	Total	Av.
PE	-22	-35	2	-14	-26	-45	0	-11	-6	-8				-4	-165	-17
CL	1	-7	-3	-4	24	0	0	16	0	0				-9	27	3

## IMAGING ELECTRONICS

Appendix D

Final

December 2001

														10	
Work Load	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	Total	Av.
Domestic PE Pending	15	10	24	4	18	28	12	8	10	29				158	16
PE Over 6 Months	0	0	0	0	1	0	0	1	0	0				2	0
Attorney Ready PE	2	0	0	0	1	0	0	1	0	0				4	0
Foreign PE Pending	0	0	0	0	0	0	0	0	0	0				0	0
CL Pending	14	5	9	23	16	0	7	12	4	20				110	11
Originating Country Appln Pending	134	62	56	70	93	243	44	147	34	100				983	98
EP Appln Pending	59	45	68	22	131	223	29	92	17	74				760	76
JP Appln Pending	77	64	103	61	225	272	54	109	20	82				1067	107
Other Foreign Appln	23	37	7	5	37	142	18	12	6	38				325	33
Input	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	Total	Av.
Domestic PE Received	4	0	1	0	0	2	0	0	0	1				8	1
Foreign PE Received	0	0	0	0	0	0	0	0	0	0				0	0
CL Received	0	0	0	2	1	0	0	0	0	0				3	0
Output	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	Total	Av.
Disposed by Filing	3	10	7	0	2	12	3	2	4	1				44	4
Other Disposals	0	0	0	0	0	0	0	0	0	0				0	0
Priority Appln Filed	3	10	7	0	2	13	3	2	4	2				46	5
US Original Appln Filed	3	10	7	0	2	12	3	3	4	2				46	5
Prepared Outside	0	0	0	0	0	0	0	0	0	0				0	0
US Other Appln	0	0	0	0	0	0	0	0	0	0				0	0
CL Answer	0	0	0	0	0	0	0	0	0	0				0	0
US Patents Issued	0	1	1	1	1	3	1	0	1	2				11	1
Month	12	12	24	12	36	24	36	24	12	12					
Year to Date															
Input YTD	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	Total	Av.
Domestic PE Received	38	8	29	2	16	43	15	37	2	37				227	23
Foreign PE Received	0	0	0	0	0	0	0	0	0	0				0	0
CL Received	3	5	11	4	13	0	5	16	0	7				64	6
Output YTD	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	Total	Av.
Disposed by Filing	51	19	21	3	18	99	21	42	12	37				323	32
Other Disposals	1	5	3	1	3	7	0	16	7	15				58	6
Priority Appln Filed	50	19	22	1	19	101	21	39	12	33				317	32
US Original Appln Filed	51	19	22	5	19	100	21	44	12	34				327	33
Prepared Outside	2	0	0	1	0	0	0	11	0	1				15	2
US Other Appln	4	7	4	16	12	11	3	3	9	9				78	8
CL Answer	4	0	14	1	6	0	8	9	0	7				49	5
US Patents Issued	14	32	19	9	34	65	12	20	19	25				249	25
Input-Output	THC	CEB	MGB	PRC	WFN	RLO	SLP	DMW	SHS	PCW	-	-	-	Total	Av.
PE	-14	-16	5	-2	-5	-63	-6	-21	-17	-15				-154	-15
CL	-1	5	-3	3	7	0	-3	7	0	0				15	2